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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/724,330	11/29/2000	Hui Cheng	XER 2 0362 D/A0544	1009
7590	03/24/2004			EXAMINER
Albert P. Sharpe, III, Esq. Fay, Sharpe, Fagan, Minnich & McKee, LLP 1100 Superior Avenue, 7th Floor Cleveland, OH 44114-2518				WU, JINGGE
			ART UNIT	PAPER NUMBER
			2623	3
			DATE MAILED: 03/24/2004	

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/724,330	CHENG, HUI
	<b>Examiner</b>	<b>Art Unit</b>
	Jingge Wu	2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 29 November 2000.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## **Disposition of Claims**

4)  Claim(s) 1-17 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 1-17 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2

4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_ .

5)  Notice of Informal Patent Application (PTO-152)

6)  Other: \_\_\_\_\_

***DETAILED ACTION***

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-17 are rejected under 35 U.S.C. 102(e) as being anticipated by the article "document compression using rate-distortion optimized segmentation" to Cheng et al. ( a reference of PTO 1449).

As to claim 1, Cheng discloses a method of image compression, comprising: digitizing an image (fig. 1, digitizing is inherent when scanning the document); segmenting the image in a plurality of different manners (fig. 2, 4 kinds of segmentations) to generate a plurality of the segmented images (fig. 2, page 6); compressing each of the segmented images (fig. 2, page 7+ section 2.1-2.3); determining how much image distortion results from each compression (fig. 9, page 19 table 1-page 20 table 2); and

selecting the manner of segmentation which results in an optimal compromise between the rate and distortion (abstract, page 10 section 7+, page 22).

As to claim 2, Cheng further discloses 3-layer MRC model (page 2-3).

As to claim 3, Cheng further discloses reconstructing the compressed image and calculating the distortion from the reconstructed images (figs. 11-14, page 19 table 1-page 20 table 2).

As to claims 4-5, Cheng further discloses re-compressing the reconstructed image with selected manner of segmentation (fig. 9-14, page 19 and 22, note that Cheng uses RDOS to compress the images and compares the rate/distortion with other methods).

As to claim 6, Cheng further discloses the optimal is achieved when the weighted sum of the rate and distortion is at a minimum (page 13 and 18, note that equations are just doing that).

As to claims 7-8, Cheng further discloses the weight ( $\lambda$ , is controlled by the user) is adjustable (page 13), and set to favor one R/D over the other (page 13, 3.2+).

As to claims 9-16, claims 9-16 are the corresponding system claims to claims 1-8 respectively. The discussion are addressed with regard to claims 1-8.

As to claim 17, Cheng further discloses the output device can be selected from the group consisting of a printer, a digital copier, a xerographic copier, a fax machine, a monitor, and a storage device (page 2).

#### **Contact Information**

Any inquiry concerning this communication or earlier communications should be directed to Jingge Wu whose telephone number is (703) 308-9588. He can normally be reached Monday through Thursday from 8:00 am to 5:30 pm. The examiner can be also reached on second alternate Fridays.

Any inquiry of a general nature or relating to the status of this application should be directed to TC customer service whose telephone number is (703) 306-0377.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Amelia Au, can be reached at (703) 308-6604.

The Working Group Fax number is (703) 872-9314.

Jingge Wu

Primary Patent Examiner

